SCOPE OF WORK

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 1

TITLE

316(b) Related Technical Assistance
Regarding Pilgrim Nuclear Power Station in Plymouth, MA
NPDES Permit No. MA0003557

TECHNICAL CONTACTS

Damien Houlihan — 617-918-1586 (phone)
USEPA, Region 1
5 Post Office Square, Suite 100 (CIP)
Boston, MA 02109-3912

EPA HEADQUARTERS CONTACT

Jamie Piziali — 202-564-1709 (phone)
U.S. Environmental Protection Agency — 202-564-6431 (fax)
Office of Wastewater Management
Water Permits Division - 4203M
1200 Pennsylvania Ave. NW
Washington, DC 20460

piziali.jamie@epa.gov

PERIOD OF PERFORMANCE

Effective date through December 2013

BACKGROUND

Pilgrim Nuclear Power Station (PNPS) is a base-load, “Boiling Water Reactor” with a rated generation capacity of 711 megawatt (MW) facility located on the northwest shore of Cape Cod Bay in Plymouth, MA. PNPS Station rejects steam turbine condenser waste heat to the Cape Cod Bay by means of a once-through cooling water system. It withdraws approximately 467 million gallons per day of water from the bay through a shore line intake, and then discharges the heated water back to the bay through its discharge outfall. PNPS Station also discharges various other pollutants, in addition to heat, to the river.

EPA Region 1 is in the process of renewing the facility’s NPDES permit. Part of permit development involves a CWA § 316(b) BTA determination. Much of the information EPA is

relying on is from the company's report titled "Engineering Response to US EPA CWA Section 308 Letter" dated June 2008.

BASIS FOR NEED

Region 1 has neither the resources nor the technical expertise available to properly assess and verify certain technical aspects of the 316(b)-related technology options evaluated by the PNPS. In particular, Region I lacks expertise in evaluating engineering changes that impact nuclear power plant operations.

SCOPE OF WORK

1. Engineering Evaluations
    a. Evaluate PNPS "Evaluation of Existing CWIS Technologies and Operational Measures"; "Closed-Loop Cooling"; "Alternative I/E Reduction Technologies" "Flow Reduction"; and "Conclusions" from June 2008 submittal.
    b. Provide engineering assessment as to the validity of operational concerns and the feasibility of retrofit of cooling system with cooling towers.

2. Biological Evaluation
    a. Review, comment, and provide support for MassDEP's thermal determination.
3. Affordability – If necessary, determine financial/economic profitability of PNPS and the affordability of installing 316(b) technologies.
4.

Level of Effort:
Review of PNPS responses related to the above listed issues: 30 hours
Identify engineering principles, costs and industry standards related to above: 120 hours
Conference calls: 4 hours
Prepare draft report: 40 hours
Incorporate EPA Region 1 comments and finalize report: 2 hours
TOTAL LOE (HOURS) FOR TASK = 194